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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,129

06/21/2005

Hitoshi Inoue

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EXAMINER

NILAND, PATRICK DENNIS

ART UNIT

PAPER NUMBER

1796

MAIL DATE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,129	<b>Applicant(s)</b> INOUE ET AL.	
	<b>Examiner</b> Patrick D. Niland	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/27/07, 6/21/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Japan on 7/15/03. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.

The prior art cited on the PTO 1449 of 6/27/07 and the International Search Report of the PTO 1449 of 6/21/05 have been lined through since they are not prior art under 37 CFR 1.97-1.98.

2. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The instant claims recite "a content of said alkali is such that". It is unclear what is intended by "a content" rather than "the content". It is unclear if this amount of alkali is merely one of many due to the recitation of "a" or if it is intended to be the only content of alkali as would be more clear if "the" were used. The pH adjusters of page 24 of the instant specification are noted and encompass additional alkali.

B. It is unclear what is intended by "carboxyl 20 groups" of claim 2.

C. The instant claims recite "characterized in that a content of said alkali is such that, when an infrared absorption intensity ascribable to ionic groups to be formed upon addition of an excess amount of said alkali to said block copolymer is supposed to be 100%, an infrared absorption intensity ascribable to ionic groups formed by dissociation of said acidic groups contained in said block copolymer becomes at least 80%, with a proviso that said content does not exceed twice as much as a smallest amount of said alkali that an infrared absorption ionic groups to be formed

from said block copolymer becomes 100%." It is unclear from the grammar of this section what is being required particularly regarding the proviso.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 102(d) as being anticipated by JP 2005-036029 Inoue et al. with the machine translation of the claims of the Japanese document being referenced.

The Japanese document claims the same invention as the instant claims and the application therefore was filed more than 12 months prior to the date of filing of the application in the United States, e.g. the PCT filing date.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. Application Publication 2004/0239738 Watanabe.

Watanabe discloses an aqueous composition containing water, pigment or water insoluble dye (the instant specification includes the C.I. Vat Blues of section [0049] within the scope of water insoluble dyes and the acid and basic dyes of section [0046]) since it is the examiner's position that dye and pigment are often used interchangeably with "pigment" often referencing insolubility such that those pigments of the reference which are insoluble in water but soluble in organic solvent fall within the scope of the instant claimed water insoluble dyes of the instant claims 1, 4, and 6 necessarily and inherently, and block copolymer which may contain the instantly claimed vinyl ether structure and hydrophilic and hydrophobic segments. Watanabe discloses neutralizing carboxylic acid groups on this polymer using amounts of neutralizing

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agent falling within the scope of the instantly claimed amount of neutralizing agent at section [0106]. See the abstract; sections [0013]-[0014], [0018], [0044]-[0051], particularly [0049], [0056]-[0059], from which the ordinary skilled artisan will understand that the dispersing ability of the polymer necessarily aids in dispersing of the pigment/dye which it encapsulates (see also section [0082]), sections [0060] which encompasses all vinyl polymers, [0070] which encompasses the instantly claimed polyvinyl ether structure, [0076]-[0082], [0104], which discloses the instantly claimed hydrophilic and hydrophobic segments and the fact that the copolymers may be block copolymers, [0106], which discloses using amounts of alkali (section [0059]) within the scope of the instantly claimed amount so as to achieve desired ink fixation after printing and presumably sufficient dispersion ability based on the recitation of the lower amount of neutralization and the stated function “dispersant” coupled with the ordinary skilled artisan’s clear understanding that the salt groups contribute to the dispersant ability, and the remainder of the document. The carboxyl groups of the reference appear to be “carboxyl 20 groups” of the instant claim 2.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the instantly claimed ink components and amounts of neutralizing alkali of the instant claims because they are encompassed by the reference as stated above and would have been expected to give the properties described by the reference including the fixation of section [0106] and the well known properties of the vinyl ether monomers of the reference. No unexpected results commensurate in scope with the instant claims and the cited prior art are seen, particularly considering section [0106] of the reference.

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. Application Publication 2003/0027894 Sato et al. in view of US Pat. Application Publication 2004/0239738 Watanabe.

Sato discloses an aqueous ink containing a block copolymer of polyvinyl ether structure and hydrophobic and hydrophilic moieties with pigment or water insoluble dyes (sections [0045]-[0055], particularly [0055]) but is silent regarding the amount of the instantly claimed alkali. See the abstract, sections [0006]-[0147], particularly sections [0025]-[0027], [0029], which discloses hydrophilic and hydrophobic segments, [0030]-[0036], of which formula (I-k) falls within the scope of the instant claim 2, [0037]-[0046], [0055], [0070] which discloses the pH of the ink as being within 3-12 though the amount of alkali of the instant claims is not disclosed, [0073], and the remainder of the document.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the instantly claimed amount of alkali to use the instantly claimed amounts of alkali to neutralize the carboxyl groups of the polyvinyl ether block copolymer of Sato because, as would be understood by the ordinary skilled artisan from the state of the art as established by Watanabe, it is ionic salt groups which contribute to stably dispersing such polymers in aqueous media and the amount of neutralization thereof should be at least equivalent to the carboxyl groups and at most 1.3 times this amount to achieve desired fixing of the ink as taught by Watanabe at section [0106] and this result would be expected in the ink of Sato. This amount of alkali of Watanabe appears to fall within the scope of the amount of alkali of the instant claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Patrick D Niland/  
Primary Examiner  
Art Unit 1796